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MRID No. 431932-32

DATA EVALUATION RECORD

299263 =
Imazamox = PC
Code 129171

1. **CHEMICAL:** AC 229,263
Shaughnessey No. 128847.
2. **TEST MATERIAL:** AC 229,263 technical; lot no. AC 6935-63;
97.1% active ingredient; a white powder.
3. **STUDY TYPE:** 72-2(a). Acute Toxicity Test for Freshwater
Invertebrates. Species Tested: *Daphnia magna*
4. **CITATION:** Yurk, J.J. and J.D. Wisk. 1994. Acute Toxicity
of AC 299,263 to *Daphnia magna* Under Flow-Through Test
Conditions. Laboratory Project ID No. 3933010-0300-3140.
Prepared by Environmental Science & Engineering, Inc.
Submitted by American Cyanamid Company, Princeton, NJ. EPA
MRID No. 431932-32.
5. **REVIEWED BY:**

F. Nicholas Mastrotta
Biologist
OPP/EFED/EEB
USEPA

Signature: *F. Nicholas Mastrotta*
Date: 11/16/04
6. **APPROVED BY:**

Daniel D. Rieder
Head, Section 3
OPP/EFED/EEB
USEPA

Signature: *Daniel D. Rieder*
Date: 11/16/04
7. **CONCLUSIONS:** This study is scientifically sound and meets
the guideline requirements for an acute toxicity test using
a freshwater invertebrate [guideline no. 72-2(a)]. Based on
mean measured concentrations, the 96-hour LC₅₀ of AC 299,263
was >122 mg ai/L, classifying this chemical as practically
nontoxic to *Daphnia magna*.
8. **RECOMMENDATIONS:** N/A.
9. **BACKGROUND:**
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A.
11. **MATERIALS AND METHODS:**



- A. **Test Animals:** Newly hatched *Daphnia magna* were collected from an laboratory stock culture maintained at ESE. They were fed green algae and YTC (a mixture of yeast, trout chow, and cereal leaves). All individuals were between 0 and 22.5 hours old at the beginning of the test. They showed no mortality or sign of stress during the 48-hour pretest period.
- B. **Test System:** Reconstituted well water was used for dilution water. The water had hardness of 162 mg/L as CaCO_3 . A semi-annual chemical analysis showed that the water was not contaminated by metals, PCB's, organochlorines, or organophosphates. Stock solution was prepared by dissolving the appropriate amount of test substance into the dilution water without the use of a solvent.

The definitive test was conducted under flow-through conditions using a proportional dilution system. The 600 mL glass test chambers were filled with approximately 500 mL of dilution water or test solution. The flow rate was approximately 6 volume additions every 24 hours. Test chambers were kept in a water bath under fluorescent lighting. The photoperiod was 16 hours light and 8 hours dark with a 30 min transition period between light and dark.

- C. **Dosage:** Based on a range-finding test, five nominal concentrations [16.1, 26.8, 44.6, 74.4, and 124 mg active ingredient (AI)/l] and a dilution water control were selected for testing.
- D. **Design:** Ten organisms were indiscriminately added to each of 12 test chambers. Two replicate test chambers were used at each test level. The test organisms were observed once every 24 hours for mortality and sublethal effects. Dead organisms were removed from the chambers at each observation period. Test organisms were feed green algae and YTC daily during the test. Test solutions were not aerated during the test.

Temperature was measured continuously in one test chamber and daily in all test chambers. Dissolved oxygen concentration (DO) and pH were measured daily in each test chamber.

Samples of the control and treatment solutions were taken at test initiation and termination for detection

of the test material using high performance liquid chromatography (HPLC).

- E. **Statistics:** Statistical analysis was not conducted due to the lack of response to the test substance.

12. **REPORTED RESULTS:** Mean measured concentrations were determined to be 16.7, 29.7, 49.0, 81.0, and 122 mg ai/l which represent values of 98% to 111% of nominal (Table 1, attached).

Throughout the test, the DO ranged from 7.2 to 8.8 mg/l or 79-97% of saturation. The pH values ranged from 7.8 to 8.4, and the temperature ranged from 19.6 to 20.5°C.

Two *Daphnia* died 96-hours test, one (5%) at the test concentration of 49.0 mg/L and one (5%) at the test concentration of 81.0 mg/L (Table 6). No sublethal effects were observed.

The 96-hour LC₅₀ for AC 299,263 was determined to be > 122 mg ai/L, and the 96-hour no-observed-effect-concentration (NOEC) was determined to be 122 mg ai/L.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**

The author presented no conclusions other than the results mentioned above.

Quality Assurance and Good Laboratory Compliance Statements were included in the report, indicating that the study was conducted in accordance with EPA Good Laboratory Practice standards (40 CFR Part 160).

14. **REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:**

- A. **Test Procedure:** The test procedures were in accordance with the SEP. No guideline deviations were identified.

- B. **Statistical Analysis:** The reviewer concurs with the authors that the LC₅₀ of AC 299,263 was >122 mg/L for *Daphnia magna*.

- C. **Discussion/Results:** This study is scientifically sound and meets the guideline requirements for an acute toxicity test using a freshwater invertebrate [guideline no. 72-2(a)]. Based on mean measured concentrations, the 96-hour LC₅₀ of AC 299,263 was >122 mg ai/L, classifying this chemical as practically nontoxic to *Daphnia magna*.

D. Adequacy of the Study:

- (1) Classification: Core.
- (2) Rationale: N/A.
- (3) Repairability: N/A.

15. COMPLETION OF ONE-LINER FOR STUDY: Yes, 6-27-94.